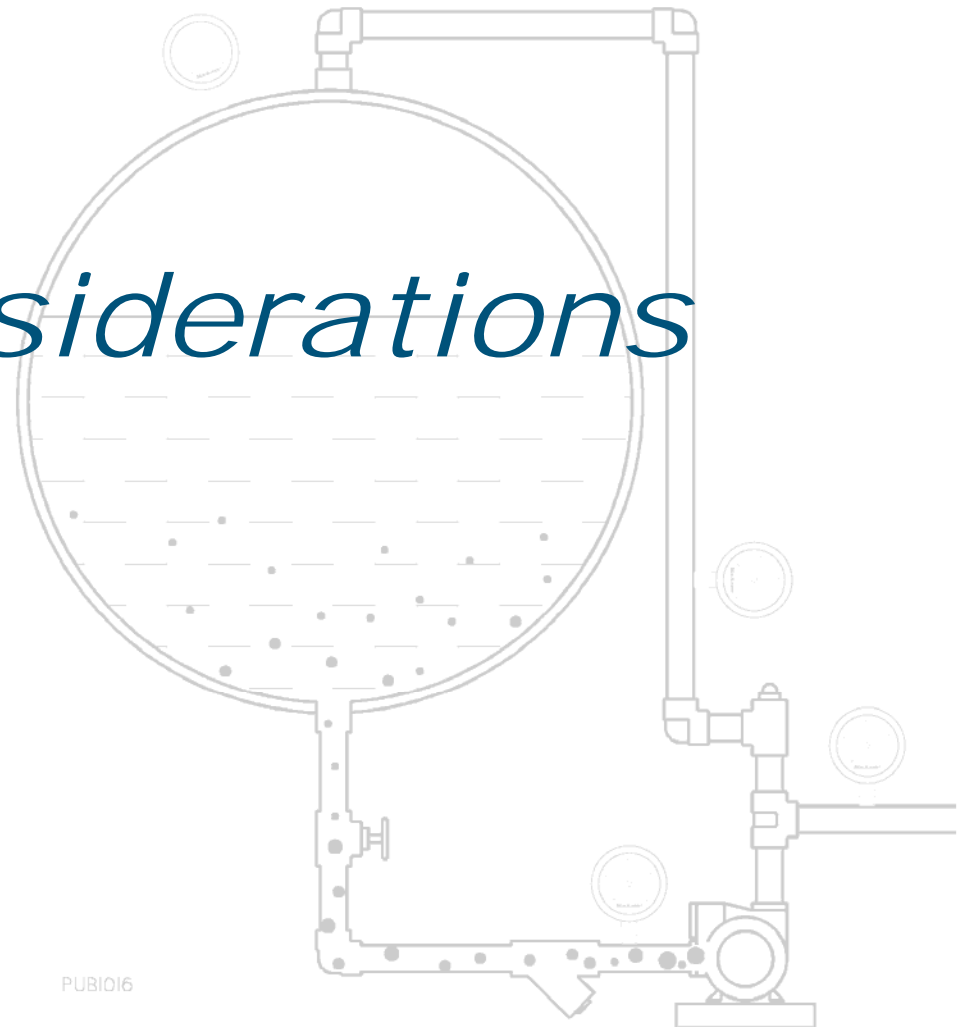
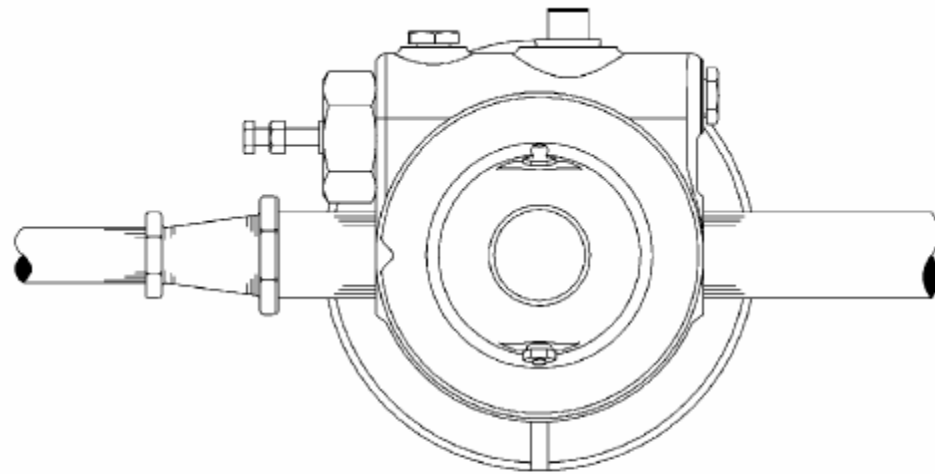


Piping Considerations



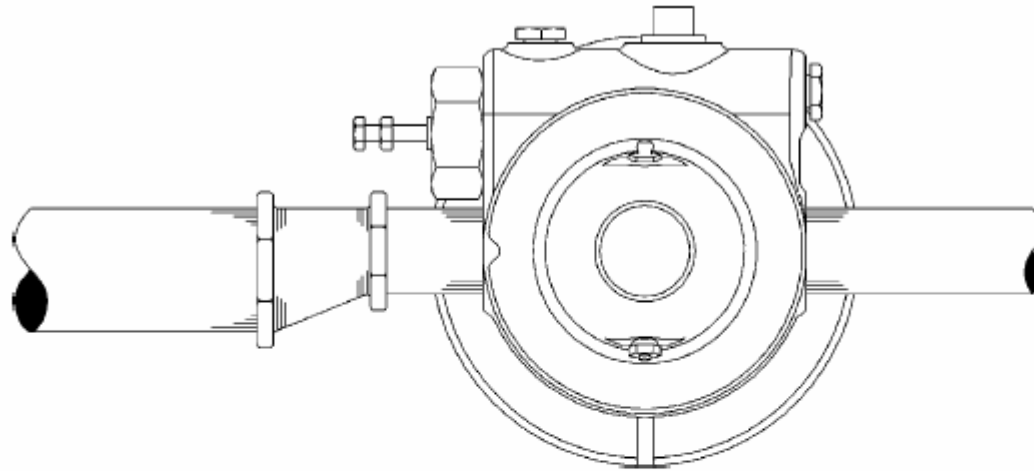
May 2002



NO

Don't restrict the inlet line.

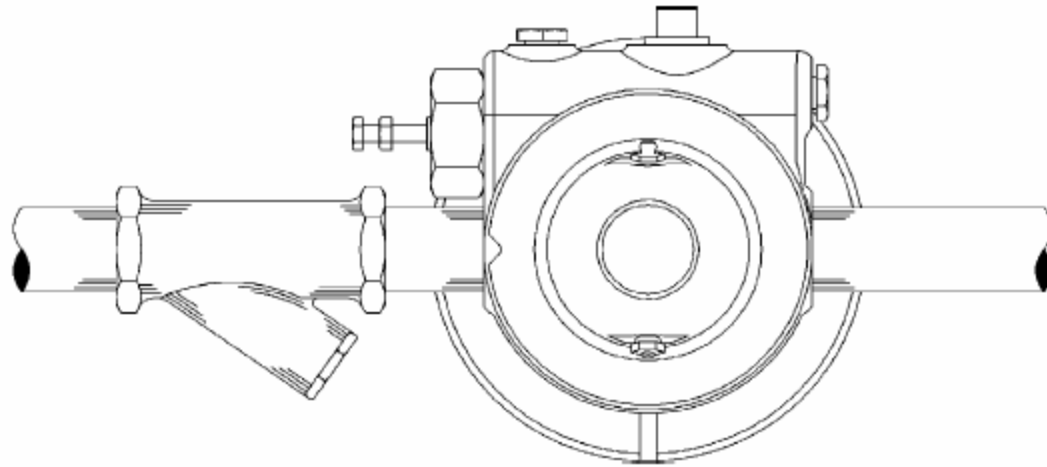
500-003, #1



YES

Use inlet line same size or larger than pump inlet connection.

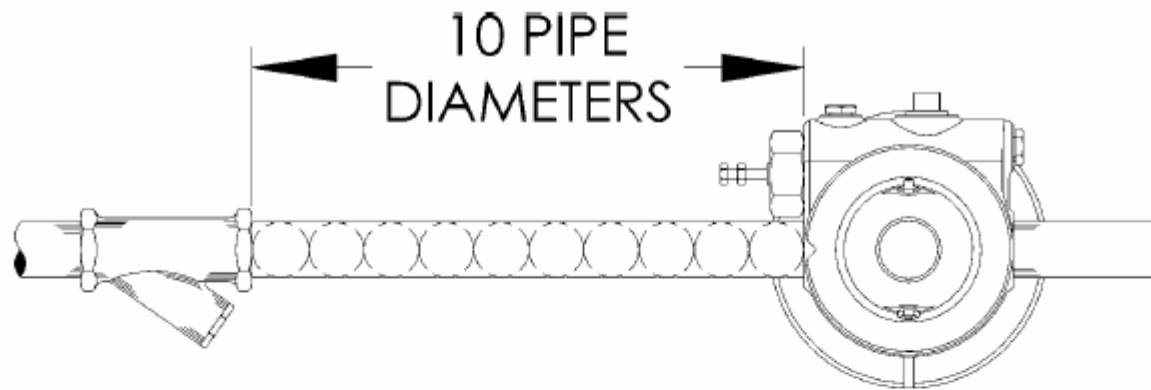
500-003, #2



NO

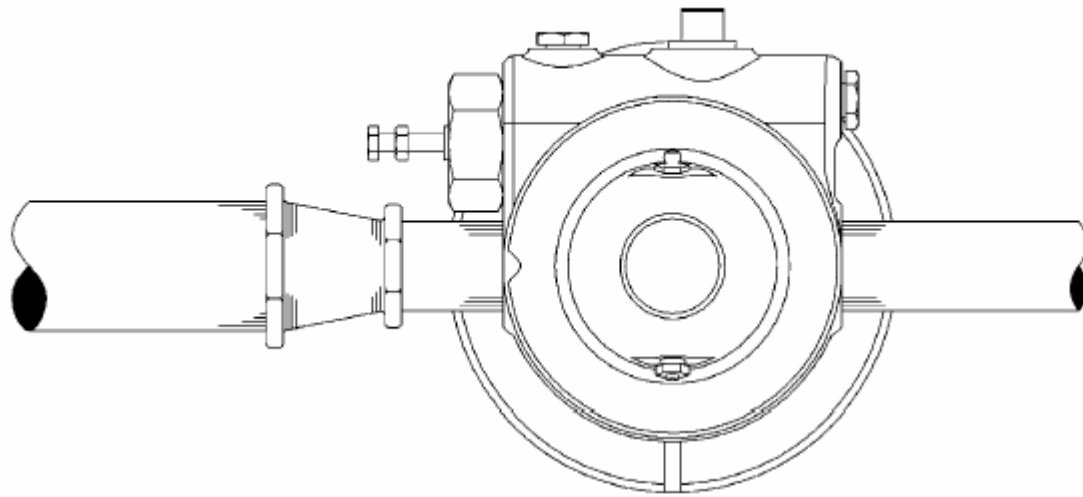
Don't install restrictive fittings close to pump inlet.

500-003, #3



YES

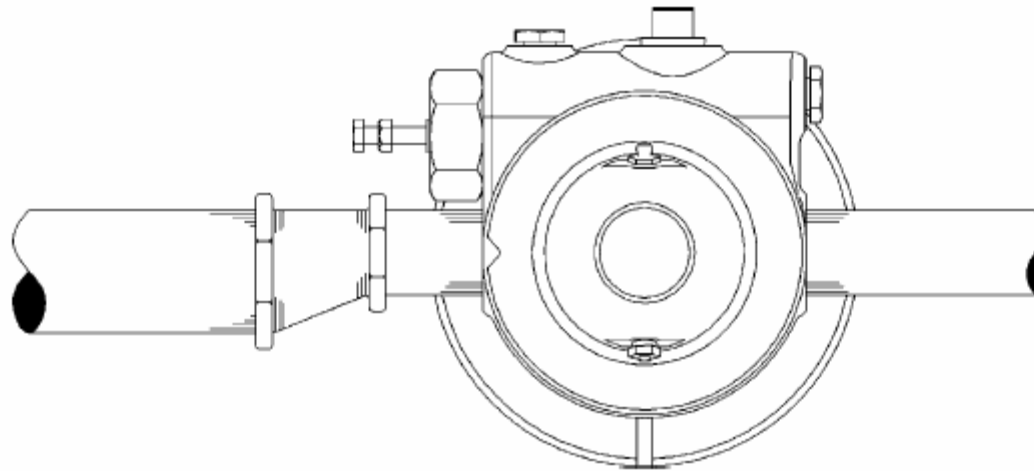
When possible, install fittings at least 10 pipe diameters upstream of the pump inlet.



NO

Don't use concentric reducers in the pump suction.

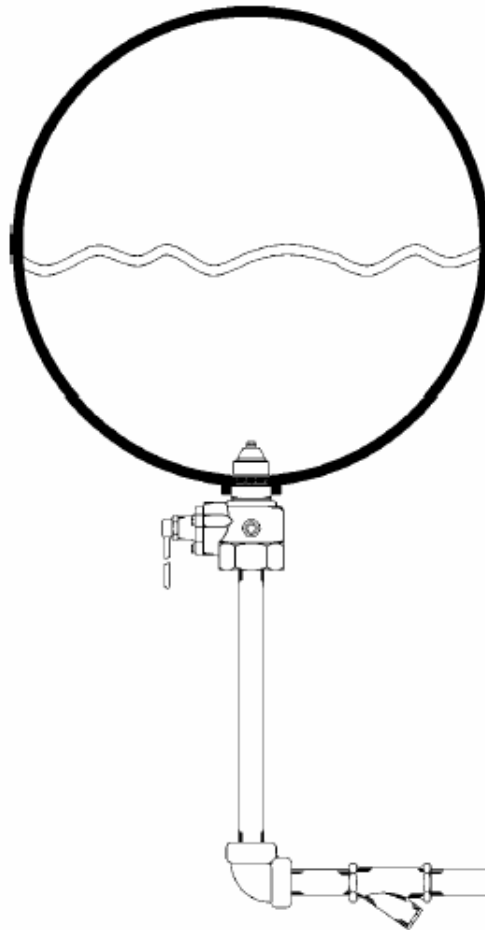
500-003, #5



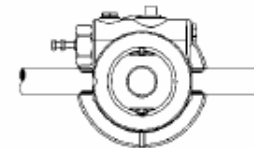
YES

Use eccentric reducers in the pump suction. Install the reducer with the flat side up.

500-003, #6

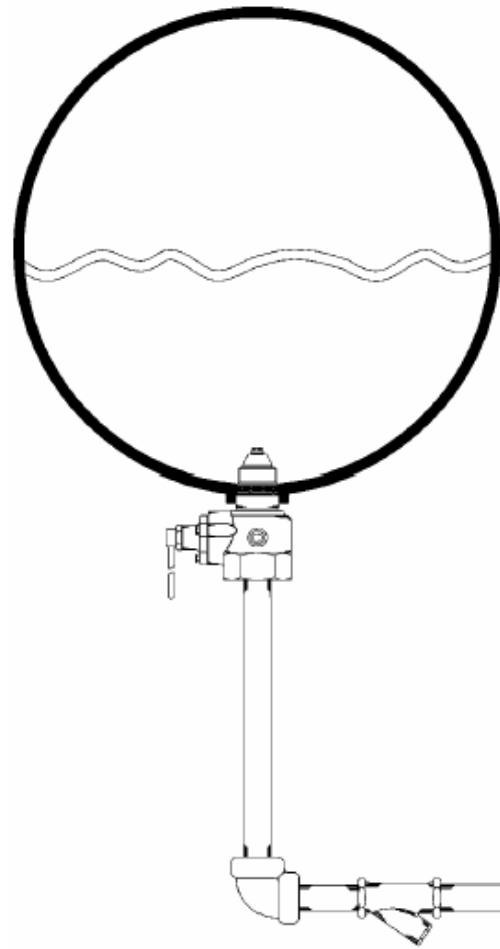


Don't locate the pump too far from the tank.



NO

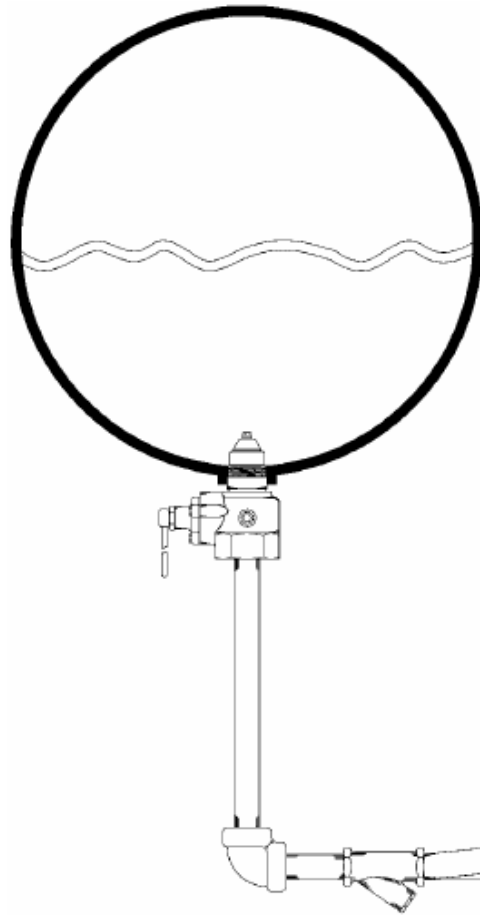
500-003, #7



Locate the pump
near, or directly
under the tank

500-003, #8

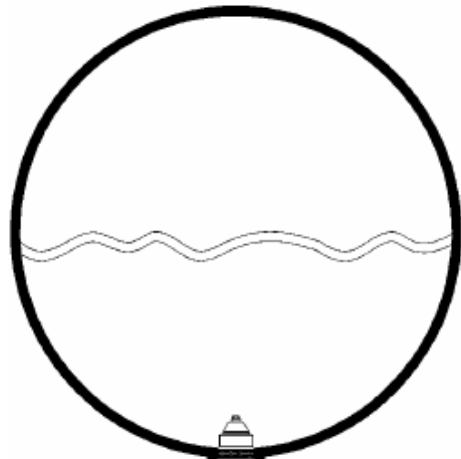
YES



Don't slope the suction line up to the pump.

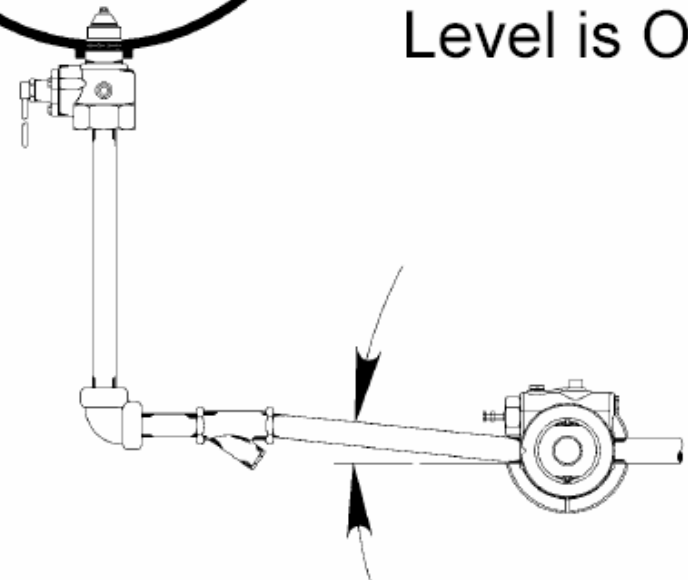
500-003, #9

NO



The suction line should slope down to the pump.

Level is OK.

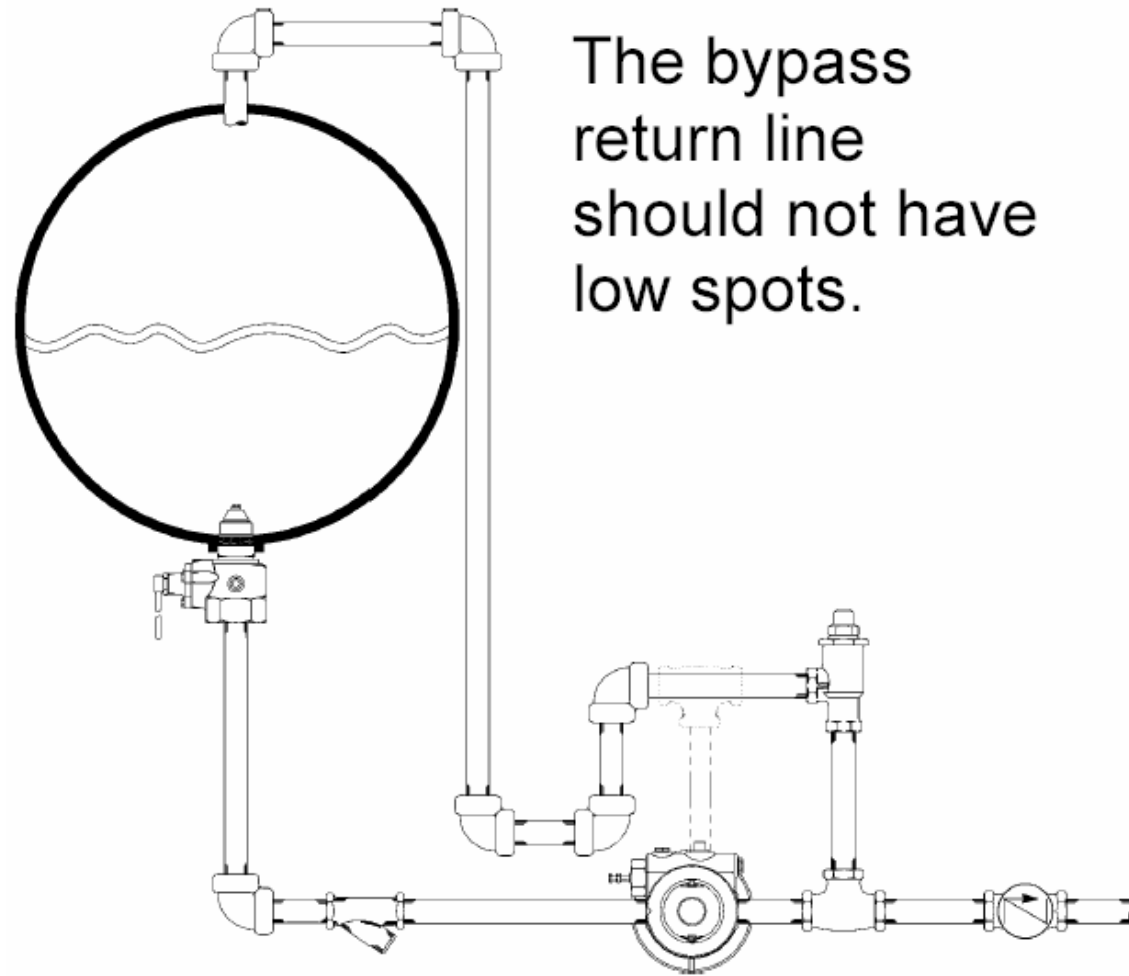


YES

500-003, #10



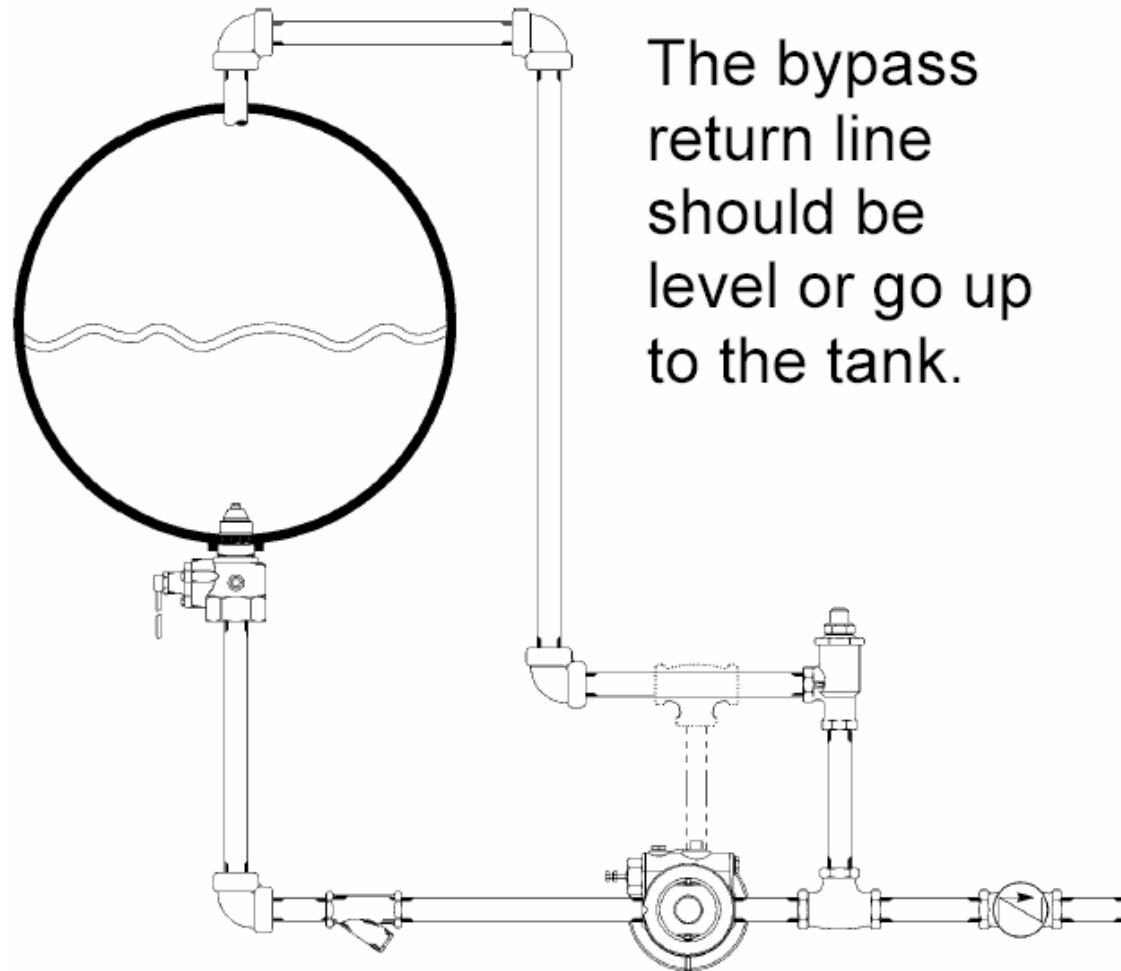
* Drawings 11, 12, 16, 21, 22, 27, 28, 29, 30 & 31. Blackmer 1" LG pumps feature an internal relief valve that may also be piped back to the supply tank eliminating the need for an external valve. Blackmer LGL 1.25" pumps and larger must use an external back-to-tank relief valve.



The bypass return line should not have low spots.

500-003, #11*

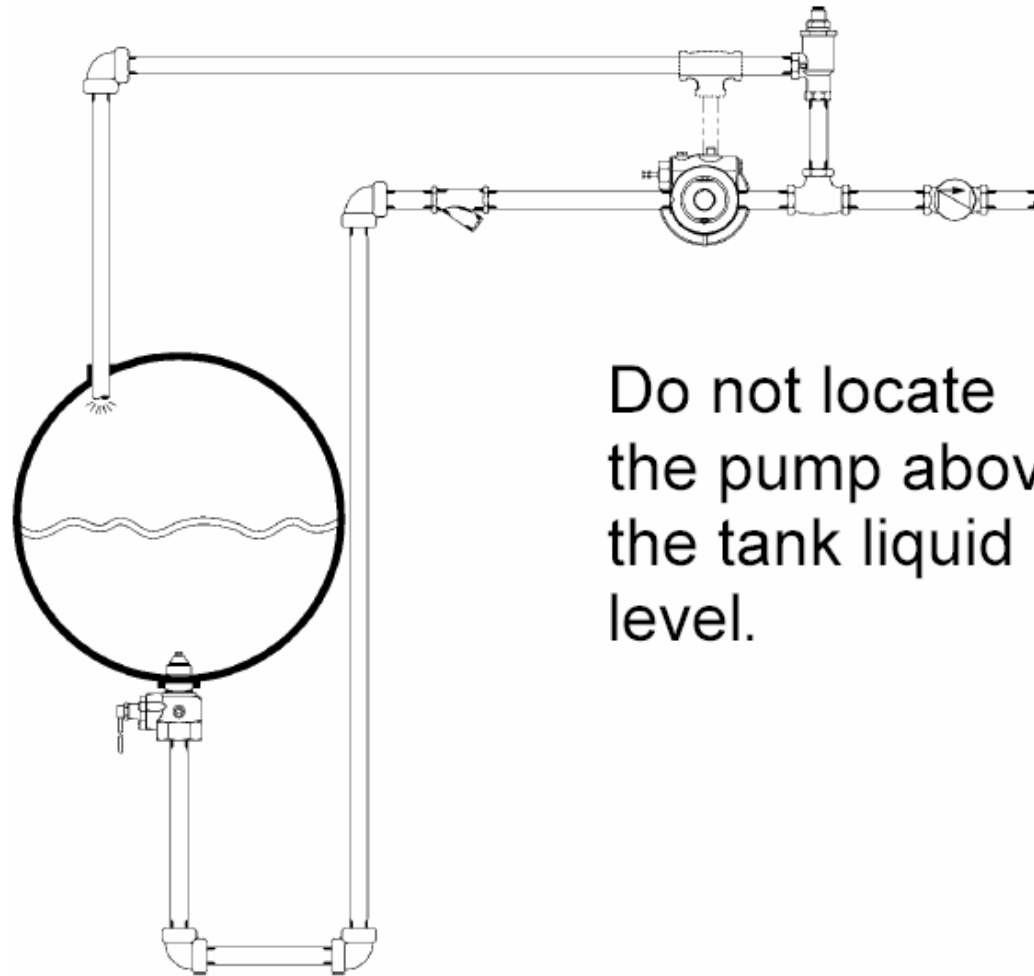
NO



The bypass
return line
should be
level or go up
to the tank.

500-003, #12

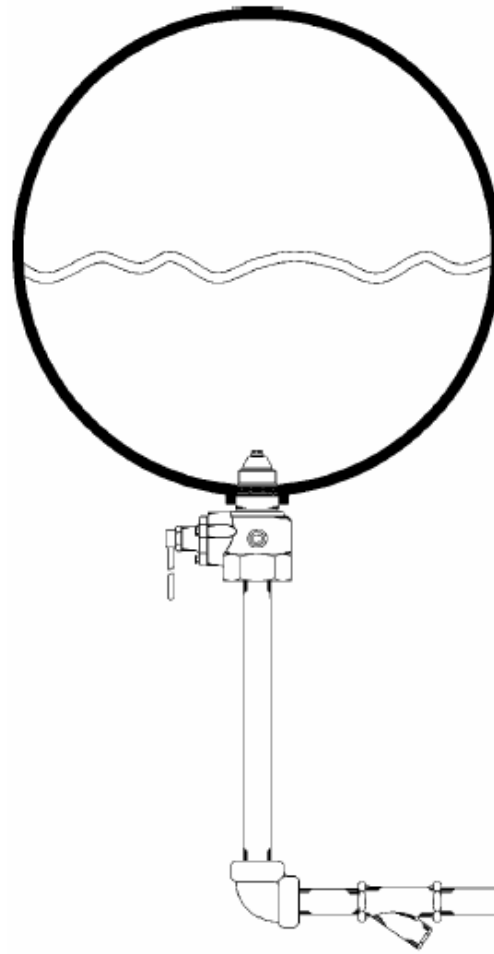
YES



Do not locate
the pump above
the tank liquid
level.

500-003, #16

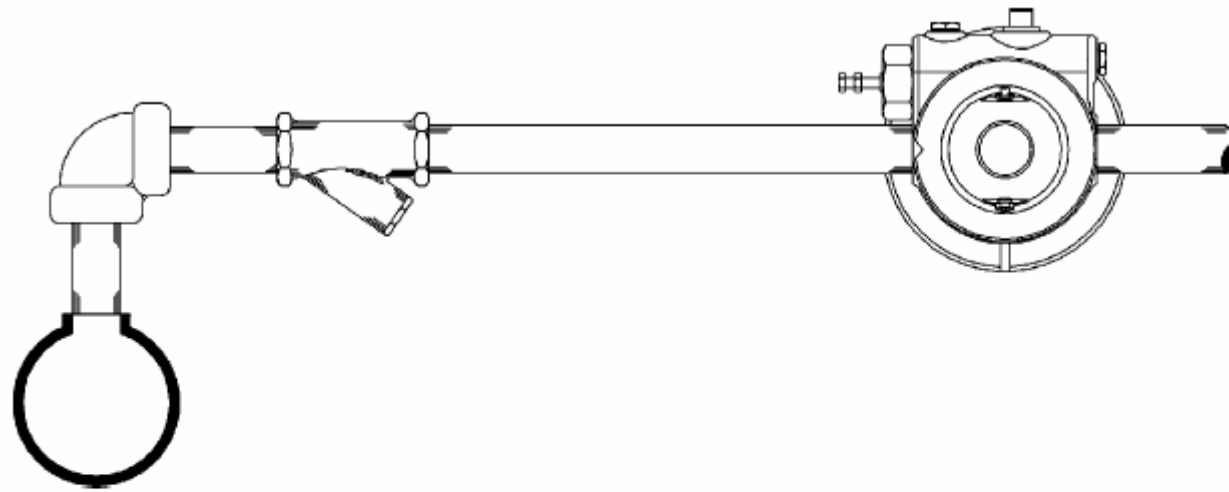
NO



Locate the pump below the tank liquid level.

500-003, #17

YES



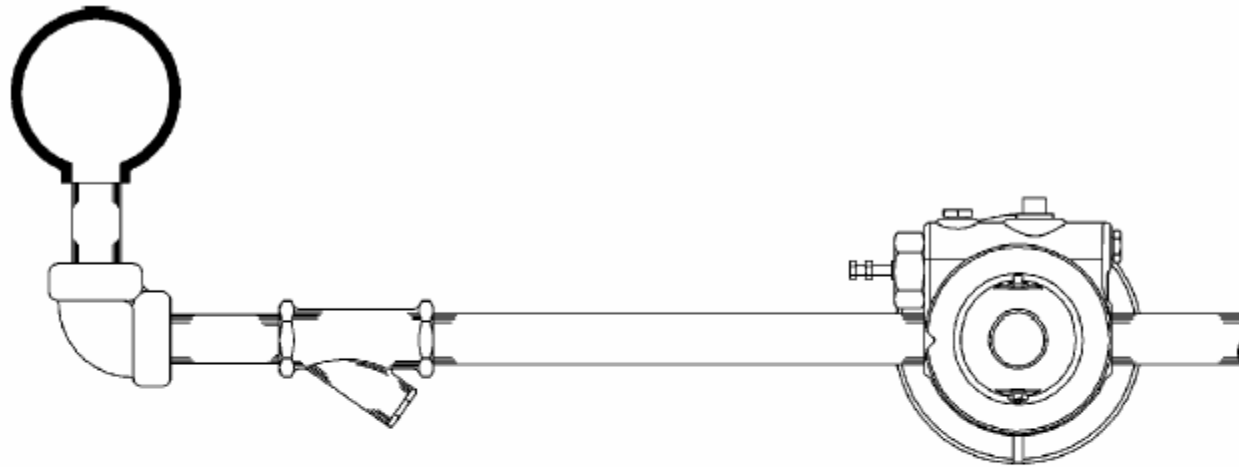
NO

Never pipe the pump suction from the top of the supply line.



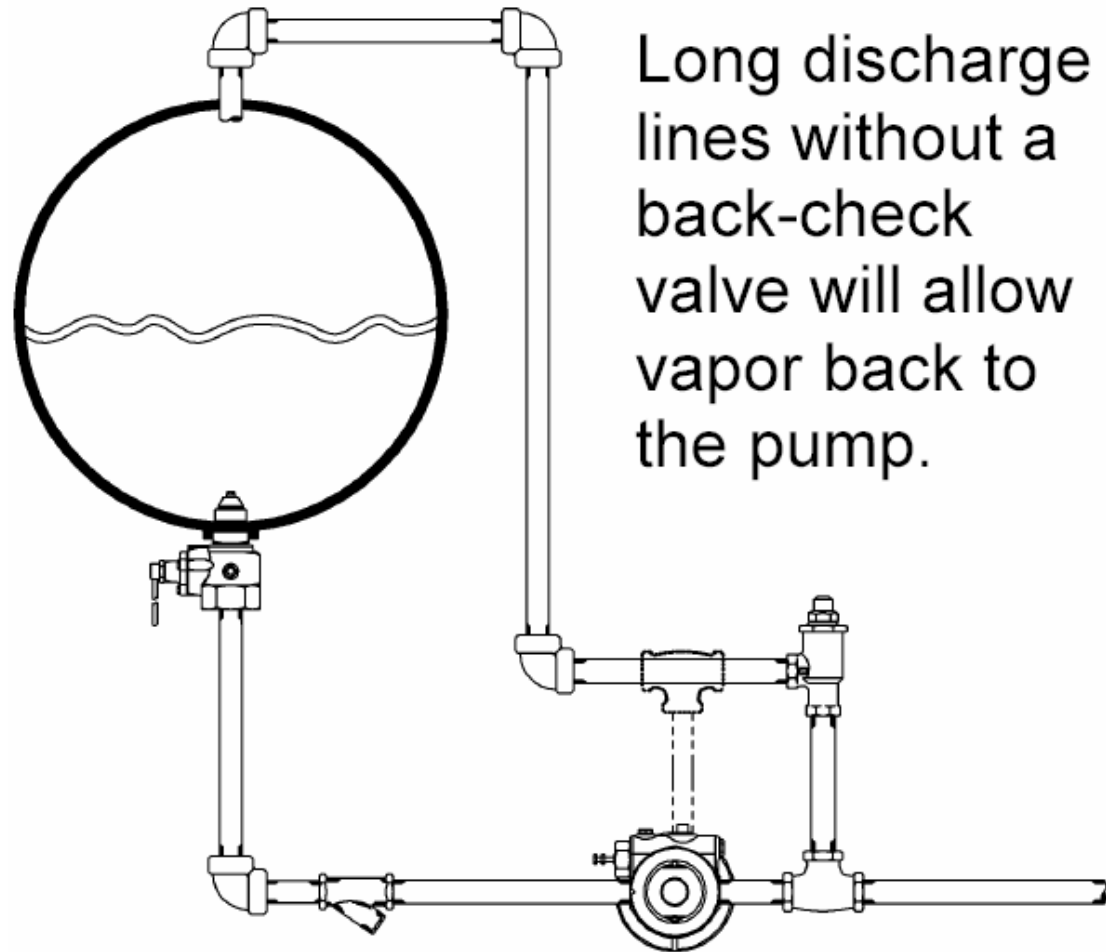
NO

Do not pipe the pump suction from the side of the supply line.



YES

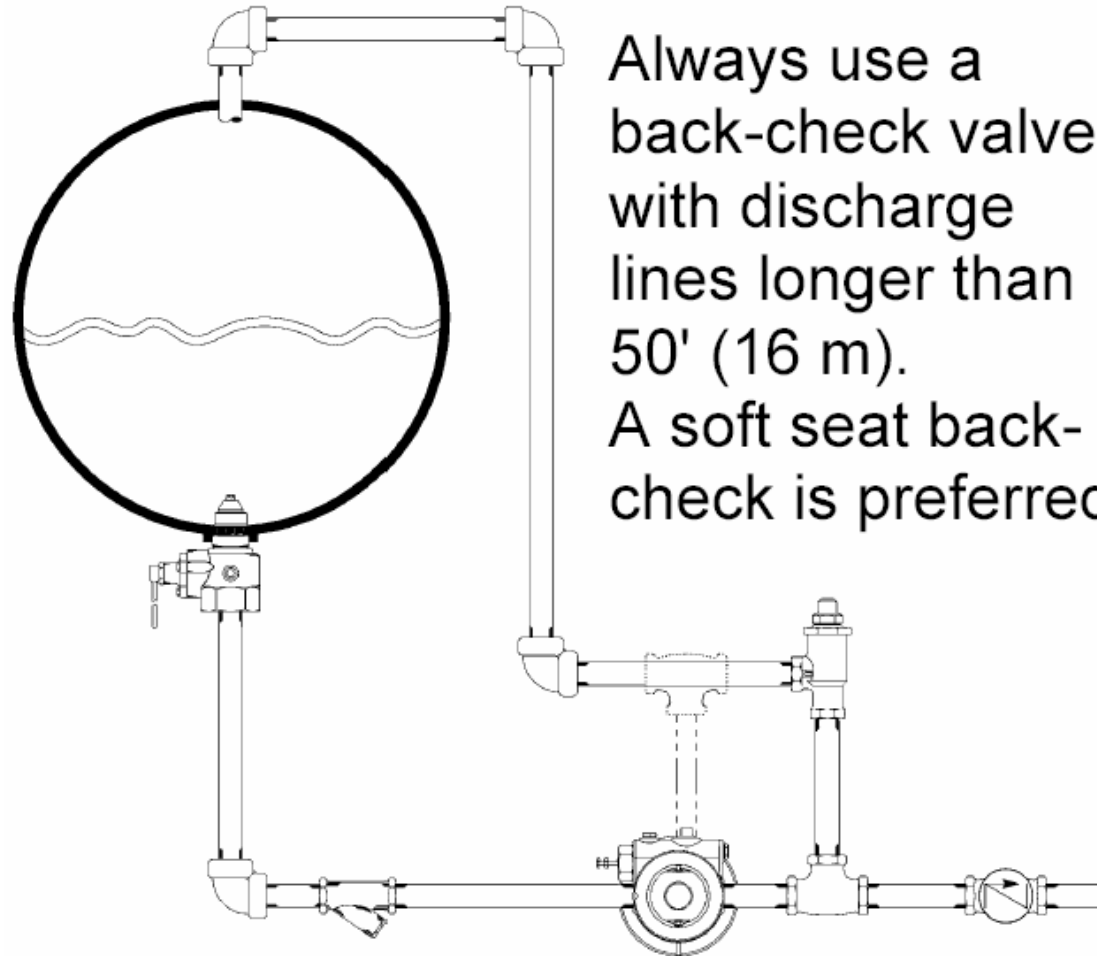
Always pipe the pump suction from the bottom of the supply line.



Long discharge lines without a back-check valve will allow vapor back to the pump.

500-003, #21

NO

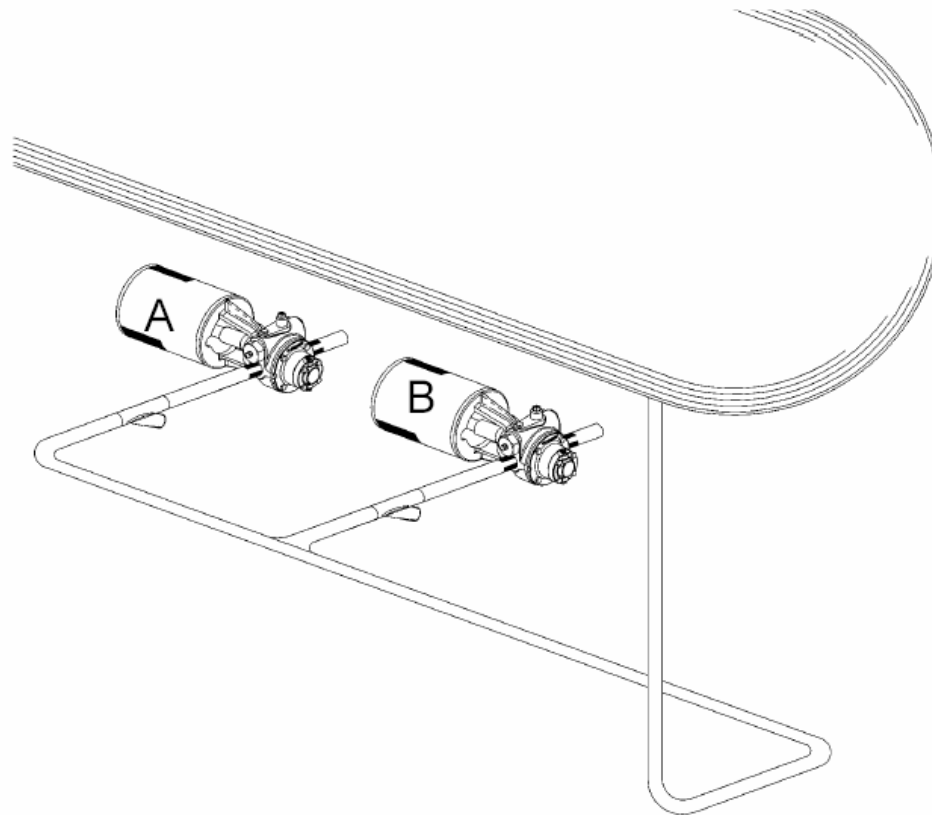


Always use a back-check valve with discharge lines longer than 50' (16 m). A soft seat back-check is preferred.

YES

500-003, #22

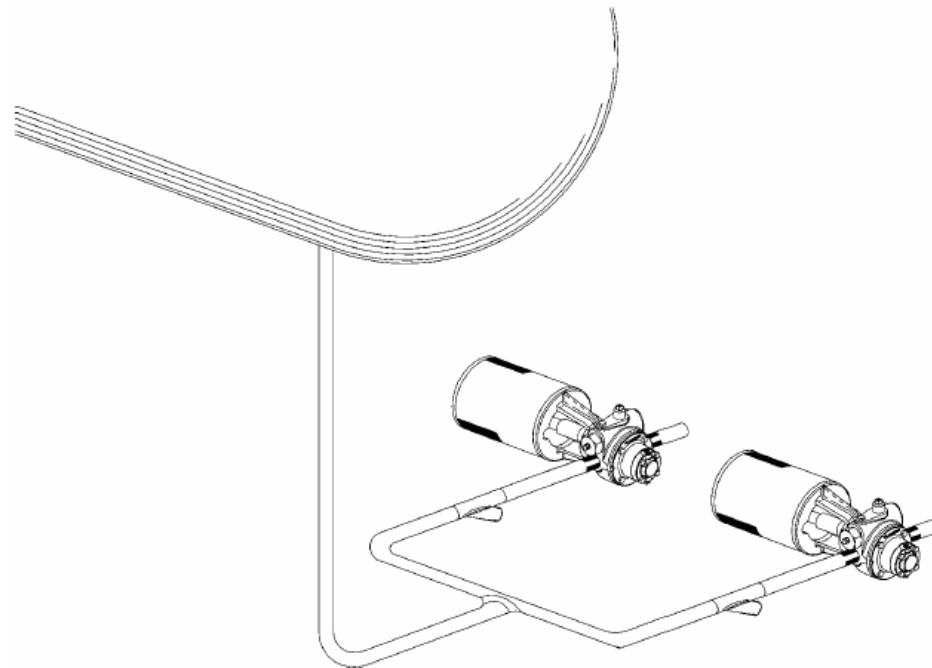
Pump A will starve Pump B.



500-003, #23

NO

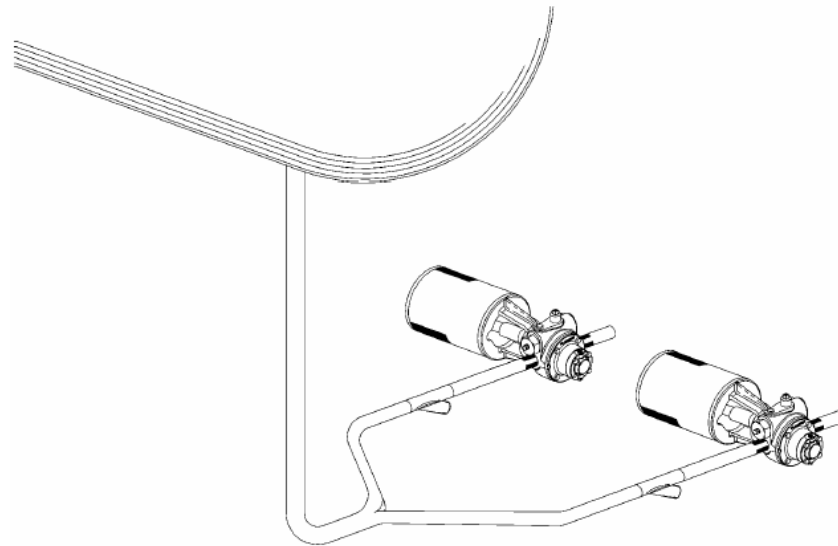
Operating 2 pumps in parallel with a tee is OK. The common portion of the suction line must be sized to handle the total system capacity.



500-003, #24

OK

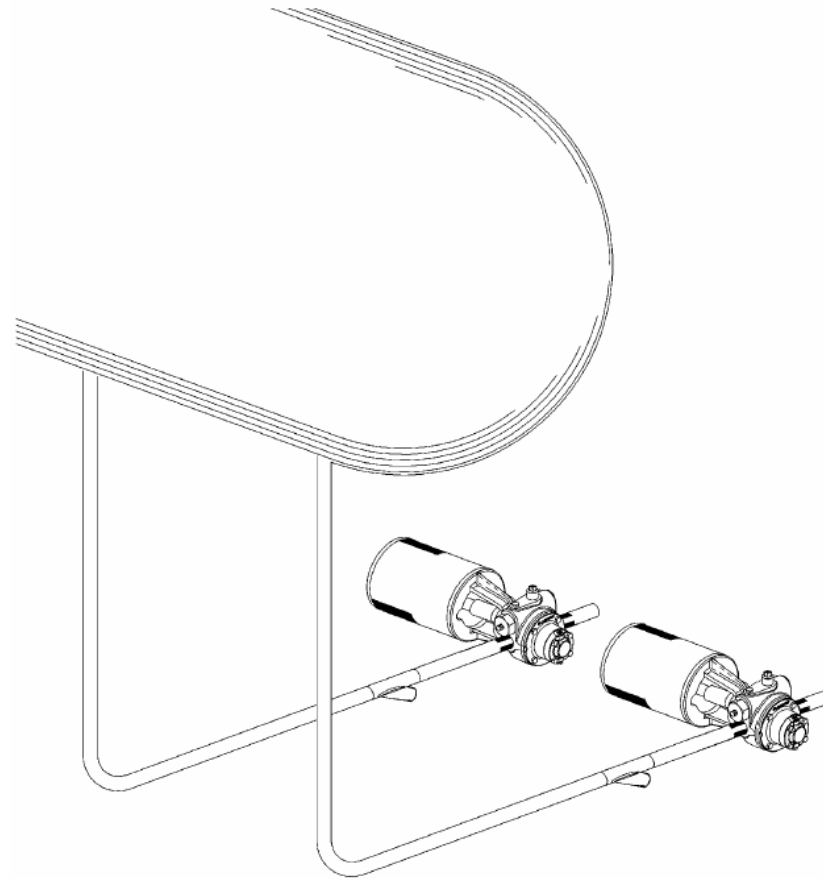
Operating 2 pumps in parallel with a wye is better. The common portion of the suction line must be sized to handle the total system capacity.



500-003, #25

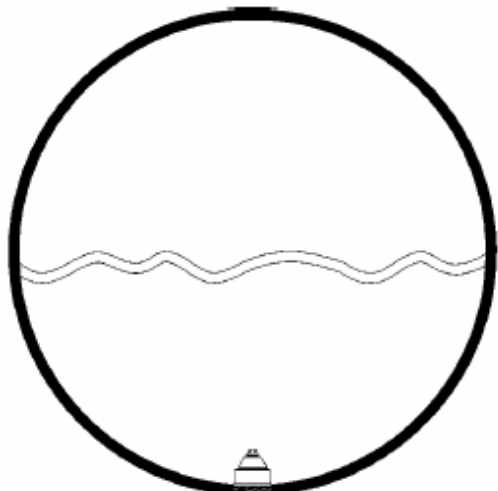
GOOD

Separate suction lines are best.

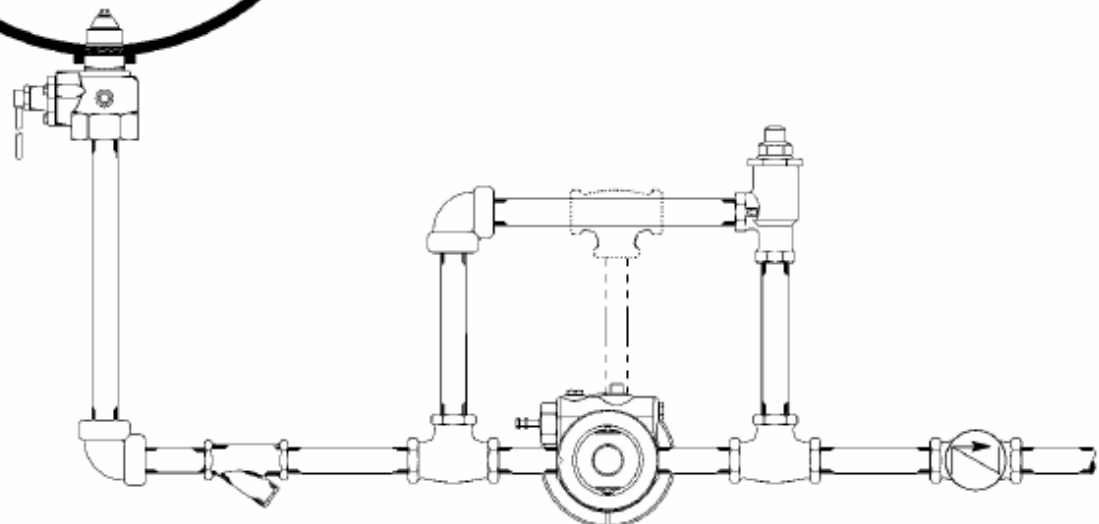


500-003, #26

BEST



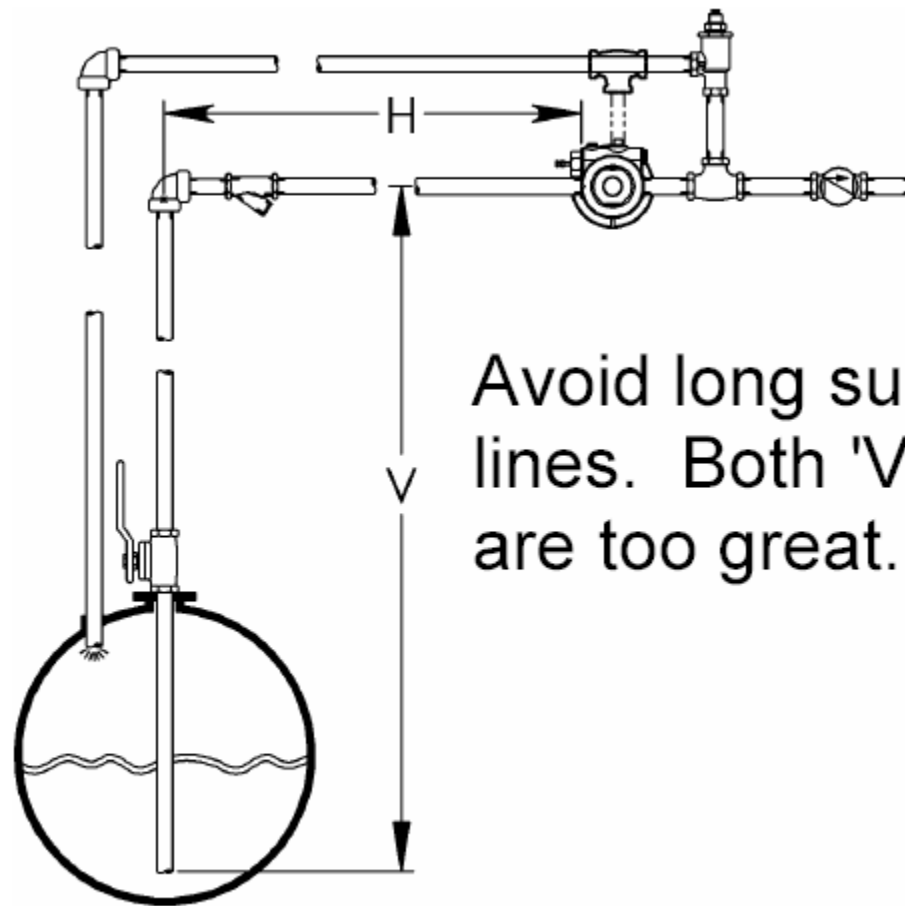
The bypass return line must not be piped back to the pump suction.



NO

500-003, #27

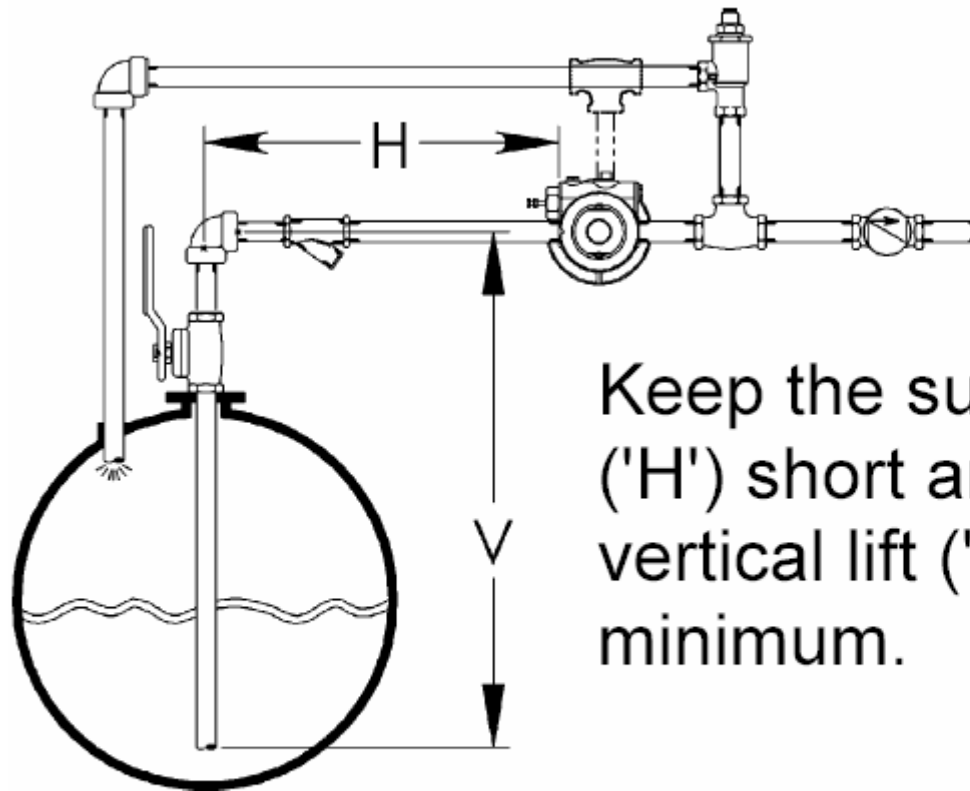
PUMPING FROM UNDERGROUND TANKS



Avoid long suction lines. Both 'V' and 'H' are too great.

NO

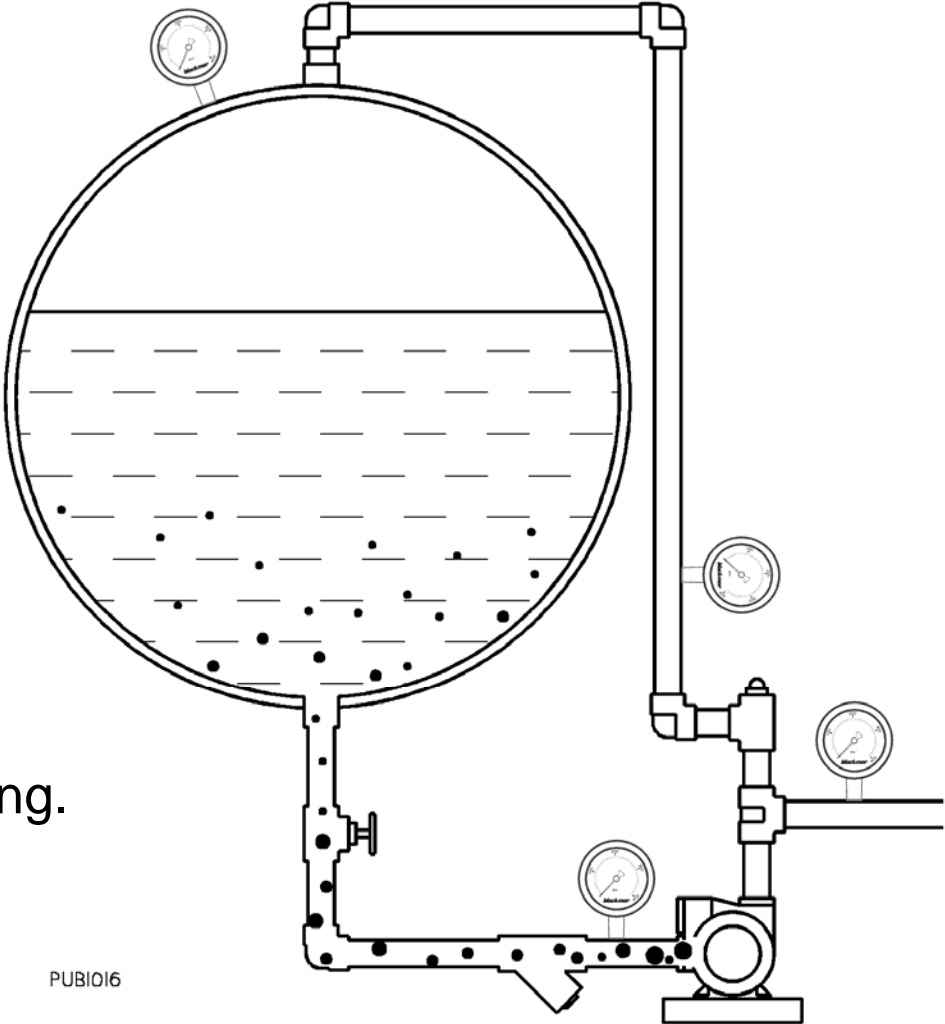
PUMPING FROM UNDERGROUND TANKS



Keep the suction line ('H') short and the vertical lift ('V') to a minimum.

YES

Pressure gauge locations for pump system trouble-shooting.



PUB1016